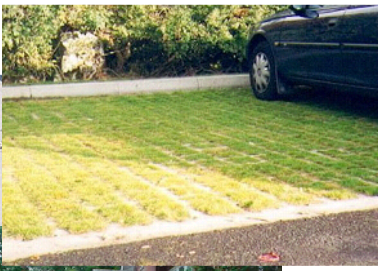
# Reducing Rainwater Runoff and Improving Stream Water Quality:

## A Guide for City of Falls Church Property Owners, Developers, and Builders



CITY OF FALLS CHURCH

**You can reduce stormwater runoff from your property and improve the water quality of our local streams by reducing the amount of impervious surface on your property, collecting rainwater, and installing "water- loving" landscaping.**

## What Are Impervious Surfaces?

Impervious surfaces primarily are constructed surfaces comprised of materials such as asphalt, concrete, brick, or stone that prevent rainwater from being absorbed into the ground. Rooftops, sidewalks, roads, driveways, and parking lots are typical examples of impervious surfaces. Compacted soil can also act as an impervious surface. Impervious surfaces repel water, prevent precipitation from infiltrating the ground, and increase the amount of runoff onto nearby properties or into local streams. There are a number of ways to reduce the amount of impervious cover on your property. A few recommendations are listed in this pamphlet.

# Ways To Reduce Impervious Cover On Your Property

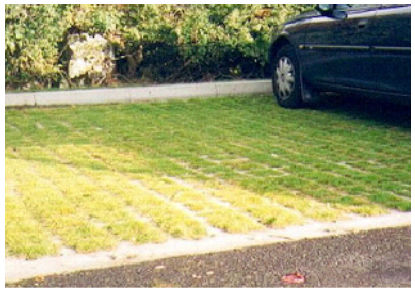
## Replace Driving and Walking Surfaces

Consider removing old paving stones, concrete pads, patio areas, or sidewalks that you do not use or need any more. Also, when resurfacing your driveway, consider whether you need it to be as long or as wide as it was previously and whether you could use a more permeable surface such as one of the following listed below.

### Permeable Pavers:

Permeable pavers utilize traditional concrete pavers that are installed with drainage openings between the pavers, thereby allowing some rainwater infiltration. Permeable pavers function well in walkways, driveways and parking areas.

### Grassed Pavers:



Grassed pavers provide the look of a lawn, since they allow grass to grow above hidden supportive structures made of concrete, plastic, or other materials that can support vehicles of all weights and sizes.

### Gravel Chip/Crushed Stone:

Gravel chip is preferable to concrete for paths or driveways, since it allows for some infiltration of rainwater. The area can be designed with an underlying drainage system and plastic forms that are then covered with crushed stone or gravel.

### Parking Strips:

Parking strips are two paved or gravel strips with vegetation in between. These may be used instead of one large paved pad in a residential driveway, thus reducing the amount of impervious surface.

## Construct a Vegetated or "Green" Roof

Vegetated roofs absorb and filter some rainwater rather than direct it into downspouts and ultimately into local streams. Vegetated roofs utilize layers of drainage material, lightweight soil, and planted material on top of a waterproof roof membrane.

## Collect Rainwater

### Replace Undersized Gutters and Downspouts:

Most gutters and downspouts are undersized and allow water to flow over the top of gutters. "Oversized" gutters and downspouts will capture more water, and the gutters will be less likely to retain leaves and other materials.

### Install Rain Cisterns:

Cisterns are large enclosed containers made of metal or plastic that collect rooftop runoff via downspouts. Cisterns can help to prevent basement flooding and provide an excellent source of water for your yard during dry periods.

### Construct a Rain Garden:

A rain garden is a low-lying area with specially-prepared soils and "water-loving" native plants that absorb rainwater runoff from your rooftop, paved surfaces, and lawn. Lawns typically grow in hard, compacted soil and allow only a small volume of rainwater to seep into the ground. Mulched beds and rain gardens allow greater infiltration. Other native groundcovers are also excellent permeable alternatives to lawn grasses. You can replace portions of your lawn with rain gardens or other vegetative cover.

## Change Building Design

Consider creating new structures or additions to existing structures with smaller footprints. This can be achieved by stacking space (i.e., by creating a two-story space rather than a larger, one-story space).

# Other Resources

**Chesapeake Bay Local Assistance Department**
www.cblad.state.va.us/index.html

**Low Impact Development Center**
www.lowimpactdevelopment.org/

**Center for Watershed Protection**
www.cwp.org/

**Stormwater Treatment**
**Best Management Practices**
www.metrocouncil.org/environment/watershed/BMP/manual.htm

# Other Useful Sites

www.epa.gov/owow/nps/pavements.pdf
www.raingarden.org
www.greenroofs.com
www.epa.gov/nps/roofcover.pdf
www.buildinggreen.com/products/paving.cfm

## For more information, contact the City's Chesapeake Bay Interdisciplinary Review Team at (703) 248-5040.